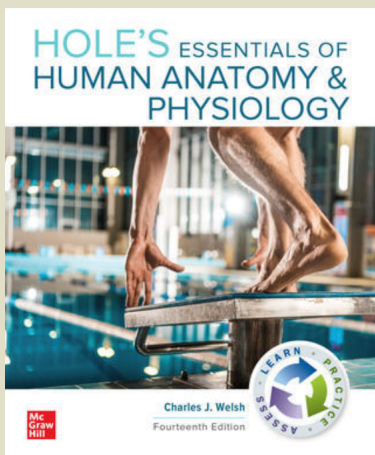


List of Changes



Hole's Essentials of Human Anatomy & Physiology 14th Edition

Welsh

ISBN: 1260251349 / 9781260251340 / © 2021

available in



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Global Changes

- Chapter openers: Featuring new and contemporary chapter-opening vignettes that are relevant to today's students.
- Chapter introductions: Revised for ease of readability and to capture student attention.
- Chapter Assess Integrative Assessments/Critical Thinking: Questions added to every chapter.
- Chapter structure: Streamlined section structures.
- Facts of Life boxes: Are now titled "Of Interest."
- Boxed material: Small boxes have been integrated into the text for better flow or have been transformed into *Clinical Application* boxes.
- Art: Revised colors, and placement of colors, to create better contrast.
- Learning and Practice Outcomes: Feature updated numbering structures to help streamline outcomes within the section.
- New in-the-classroom author team brings a fresh perspective for today's student!

SEE LIST OF CHANGES ATTACHED.

It All Starts with You >>

McGraw-Hill Connect® is a course management and adaptive learning solution that enhances your unique voice and teaching style. As your partner, we're committed to helping you achieve your course goals and unlock student potential. That's why we've made meaningful updates to this edition.

New In Connect:

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Anatomy & Physiology Revealed (APR) 4.0 – The updated interactive cadaver dissection tool enhances lecture and lab with new animations, structure views, and a streamlined interface for today's students. Built in, so students can use anytime, anywhere.

Rotatable 3D Models enhance the learning experience and allow students to see the spatial relationship of structures in the human body. Side-by-side corresponding cadaver images provide perspective.

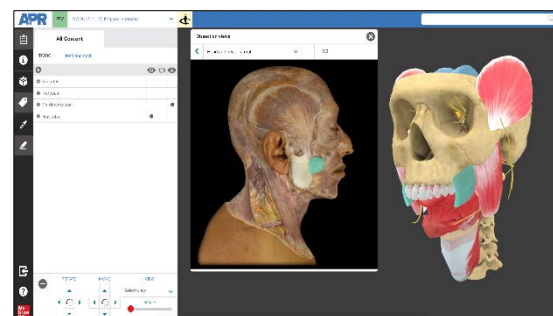
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Changes to Welsh, Hole's Essentials of Human Anatomy & Physiology, 14e

Chapter 1 Revised opening vignette.

Figure 1.2 revised to show sense of hearing.

Figure 1.3 revised to show levels of organization using the cardiovascular system.

Figure 1.6 changed for ease of understanding.

Chapter 2 New opening vignette about Gluten.

Reorganized the section on bonding.

Figure 2.3 revised for better understanding.

Figure 2.7 revised for better understanding.

Reorganized and revised section on acids and bases.

Rewrote the section on pH.

Chapter 3 Figure 3.3 changed to better show various membrane proteins.

Reorganized the discussion of organelles.

Reorganized and revised sections on membrane transport for clarity: diffusion, facilitated diffusion, osmosis, tonicity, and active transport.

Figure 3.19 was revised to show both pinocytosis and phagocytosis.

Reorganized section on Cell Division.

Chapter 4 Figure 4.1 now gives a better explanation of anabolic versus catabolic reactions.

Figures 4.2, 4.4, and 4.5 all now have hydrolysis and dehydration synthesis labels.

Figure 4.9 shows the coupling of the anabolic and catabolic components of cellular respiration.

Figure 4.10 has been edited to make it clearer.

Chapter 5 Reorganized the Epithelial Tissue section.

Rewrote the section on glands.

Figure 5.14 has been changed for clarity.

Reorganized Connective Tissue section.

Reorganized Membranes section.

Reorganized Muscle Tissue section.

Rewrote Nervous Tissue section.

Chapter 6 New opening vignette about Tattoos.

Reorganized the section on Epidermis.

Reorganized the section on Skin Functions.

Chapter 7 New opening vignette about Forensic Skeletal Analysis.

Reorganized Bone Growth and Bone Development sections.

Reorganized sections on Axial and Appendicular Skeleton.

Chapter 8 Rewrote section on Muscle Fatigue.

Added a discussion of Fast versus Slow muscle fibers.

Added a discussion of Isotonic versus Isometric contraction.

Revised figure 8.13 for clarity and better color contrast.

Reorganized the section Skeletal Muscle Actions.

Revised figures 8.14 and 8.15 for clarity.

Chapter 9 New opening vignette about CTE.

Figure 9.1 is new to show nervous system input, integration, and output.

Reorganized much of the chapter for better flow and use in the classroom.

Reorganized section on Neurons and Neuroglia.

Rewrote section on Neuron Structure.

Added a discussion of satellite cells.

Figure 9.3 has been revised to show neurilemma.

Changes to Welsh, Hole's Essentials of Human Anatomy & Physiology, 14e

Rewrote sections on Membrane Potential and Action Potential for brevity and clarity.
Figure 9.16 is new to show the graphs for excitation and inhibition.

Chapter 10 New opening vignette about Cochlear Implants.

Added discussion of the Labeled Line Principle.
Added a section on Proprioception and Baroreceptors.
Figure 10.2 is new to show Muscle Spindles.
Combined old figure 10.2 with figure 10.3 for clarity.
Figure 10.24 is new to show and explain nearsightedness and farsightedness.

Chapter 11 Reorganized the chapter.

Switched figures 11.1 and 11.2 for better flow.
Changed figure 11.17 for clarity on the actions of insulin and glucagon.
Made separate sections for the pineal and thymus glands.

Chapter 12 New opening vignette about Blood Doping.

Revised sections on Formed Elements and Red Blood Cell Production.
Figure 12.4 has been revised for clarity.
Added a new table for types of anemia.
Figure 12.5 has been revised for clarity.
Figure 12.7 has been revised for clarity.
Revised section on White Blood Cell function.
Revised sections on platelets and coagulation to include clinical relevance.
Revised figures 12.8, 12.9, and 12.20 for better coloring and clarity.
Table 12.5 has been updated.

Chapter 13 Figure 13.2 is new, to add more detail.

The section on Blood Flow Through the Heart, Lungs, and Tissues has been revised for clarity.
Figure 13.6 now includes a schematic of blood flow.
The sections on Heart Actions have been reorganized and revised for clarity.
Figure 13.23 has been changed to show more detail.
Figure 13.24 was expanded to show more detail.

Chapter 14 Reorganized the chapter.

Revised the discussion on the Complement System.
Revised the discussion of Fever.

Chapter 15 Revised discussion of the teeth.

Revised discussion of the pharynx and esophagus.
Figure 15.12 now shows the action of HCl on pepsinogen.
Revised the discussion of the liver and gallbladder.
Figure 15.17 now has the Hepatic Triad labeled.
Figure 15.18 now has a schematic showing the blood flow into and out of a liver lobule.

Chapter 16 New opening vignette about the effects of cigarette smoke, and electronic cigarettes and vaping.

Edited figure 16.1 for more detail.
Revised discussion of the pleural cavity.
Figure 16.12 has been changed for more detail and clarity.
Revised discussion of Spirometry.
Revised discussion of Factors Affecting Breathing.
Figure 16.17 has been changed to show the neurological control over breathing.
Figure 16.22 and 16.23 have been consolidated and revised to better show the relationship between the bicarbonate buffering system, plasma, and red blood cells.

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Chapter 17 Figure 17.1 revised to show transverse section.

Reorganized and rewrote section on Kidney structure for clarity.

Section on Renal Blood Supply has been revised for clarity.

Figure 17.3 has been revised for clarity and to show two nephron types.

A figure was added to show renal blood flow.

The section on Nephron Structure was revised, along with associated figure 17.7.

Rewrote section on Urine Formation for clarity.

Revised sections on Glomerular Filtration, Filtration Rate, and Tubular Reabsorption for clarity.

Revised the sections on the Urethra and Micturition and added a discussion of incontinence.

Chapter 18 Revised discussion of Body Fluid Composition.

Edited the label on figure 18.1 for accuracy.

Edited the label on figure 18.4.

Revised introduction to Electrolyte Balance.

Reorganized the Acid-Base Balance section.

Chapter 19 Revised figure 19.2 for clarity and more detail.

Reorganized the section on Organs of Male Reproductive System.

Created a new section for Spermatogenesis.

Created a new section for Oogenesis and the Ovarian Cycle.

Figure 19.10 is new for clarity and more detail.

Chapter 20 Created a new section titled Aging: The Human Life Span.

Reorganized Genetics section.

Revised discussion of Dominant and Recessive Inheritance.

Figure 20.19 is new to better show dominant and recessive inheritance.

Created a section on Extensions to Mendelian Inheritance to include discussions of Pleiotropy, Co-Dominance, Incomplete Dominance, and Multiple Alleles.

Expanded discussions of Chromosomal Inheritance and Polygenic Inheritance.

Added figures to show Inheritance of Sex and Trisomy 21

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